

**POWELL ROAD LANDFILL SITE  
HUBER HEIGHTS, OHIO**

680

## **I. Introduction**

This Preliminary Close Out Report documents that the U.S. Environmental Protection Agency (U.S. EPA) completed all construction activities for the Powell Road Landfill Site in accordance with Procedures for Completion and Deletion on National Priorities List Sites and Update (OSWER Directive 9320.2-3C). U.S. EPA and the Ohio Environmental Protection Agency (OEPA) conducted a pre-final inspection on January 27, 2000, and determined that the remedy was constructed in accordance with the Remedial Design (RD) plans and specifications. Because all work was satisfactorily completed this became the final inspection.

## **II. Summary and Conditions**

### **Background**

The Powell Road Landfill Superfund Site (the Site) is located in Huber Heights, Ohio, a suburb in the northern Dayton metropolitan area of Montgomery County, Ohio. The Site occupies approximately 70 acres on the floodplain of the Great Miami River. The landfill portion of the Site is located at 4060 Powell Road in Huber Heights, Ohio, and is bordered by Powell Road and residential housing on the north, an intermittent stream to the east, wooded areas to the south and west, and the Great Miami River to the south. The landfill covers roughly 36.3 acres and rises 30 to 40 feet above the surrounding terrain. The Great Miami River flows east to west along the southern boundary of the Site, approximately 150 feet south of the landfill. Two intermittent streams to the east of the Site drain south to the river.

The Great Miami River buried valley aquifer "GMR BVA" is the main source of drinking water for the Dayton metropolitan area. Residents located south of the Site, in the area immediately south of the river known as Eldorado Plat, obtain their water from private wells installed in the primary aquifer. Approximately 0.75 miles south of the site are Ohio Suburban Water Company (OSWC) wells, which supply water to residents in most of Huber Heights and a small portion of Mad River Township. Approximately 1.5 miles south of the Site, the City of Dayton operates wells in the GMR BVA. These wells supply water to residents of Dayton, a number of other local municipalities, and Montgomery County. The city of Dayton has begun operation of a new well field approximately 0.5 miles west of the site.

The Site is a former gravel pit which was converted to a landfill in 1959 and operated until 1984 under several different owners. The current owner is SCA Services of Ohio, a subsidiary of Waste Management of North America, Inc. Commercial, industrial, and non-hazardous domestic wastes were disposed of in the landfill. Degradation of these wastes resulted in a release of hazardous substances.

The Site was proposed for listing on the National Priorities List (NPL) on September 8, 1983 and was final on the NPL on September 21, 1984.

The RI determined the nature and extent of on-site and off-site contamination, and estimated the risks posed by the Site to human health and the environment. The RI Report, finalized in February 1992 identified the following contamination:

On-Site(contamination associated with the Site)

- Landfill gases consisting of methane with detectable concentrations of volatile

organic compounds (VOC).

- Leachate(landfill liquids)consisting of VOC, semivolatile organic compounds and inorganic compounds.
- Surface and near-surface soils containing semivolatile organics, pesticides and polychlorinated biphenyls(PCBs)
- Shallow and primary aquifers adjacent to the landfill containing VOC.
- Primary aquifer south of the river (Eldorado Plat area) containing VOC.

Off-Site(contamination not associated with the Site)

- Primary aquifer south of the river (Needmore Road area) containing VOC's. A connection between the Site and contamination found in this area could not be confirmed and is therefore not addressed by the final remedial action.

Additional sampling of soils, leachate and groundwater was conducted during the pre-design field investigation. The water-quality data from 1983 through 1995 indicates that ground water quality has improved or remained consistent(has not degraded) since 1988. In addition, the contaminant concentrations in the ground water in the vicinity of the site are at very low levels.

The Feasibility Study(FS) was completed on September 30, 1993.

#### **Remedial Construction Activities**

The components of the remedy as specified in the Record of Decision(ROD) dated September 30,1993, Explanation of Significant Difference (ESD) dated January 23, 1997 and ESD dated August 13,1997 are:

1. Institutional controls, including site security, deed restriction and access controls.
2. Flood protection, including but not limited to seeding and mulching unvegetated areas, maintaining temporary control measures, and protecting existing vegetation.
3. Storm water controls including berms, discharge ditches, etc. to dissipate the energy of the storm water flow and reduce erosion potential.
4. Excavation of contaminated soils and consolidation of soils under the improved landfill cap.
5. An improved landfill cap consisting of a low permeability layer, a drainage layer, a geotextile layer, and vegetative soil layer.
6. A leachate extraction and collection system consisting of series of vertical extraction wells installed in the landfilled waste designed to extract leachate in order to prevent its migration out of the landfilled waste.
7. A ground water extraction system to capture contaminated ground water from the shallow aquifer adjacent to the landfill and on-site treatment(the ground water component is contingent per the January, 1997 ESD).
8. Off-site treatment of extracted leachate (per the August, 1997 ESD)
9. Active landfill gas collection and treatment with a flare.
10. Discharge of treated groundwater and leachate to river in accordance with NPDES requirements
11. Monitoring systems for ground water, air, points of compliance, and the extraction/treatment/ discharge systems, in order to determine the effectiveness of the remedial actions.

The Remedial Design RD was completed on December 5, 1997. USEPA issued a Unilateral Administrative Order to Waste Management to perform the Remedial Action on May 6, 1998. USEPA and the Ohio EPA conducted a final inspection on January 27, 2000 which concluded that construction activities were complete. USEPA determined that the following RA activities were completed according to the ROD design specifications:

1. Institutional controls were in place.
2. Flood protection had been constructed.
3. Storm water controls were constructed, including berms and discharge ditches.
4. Contaminated soils were excavated and placed under the cap.
5. An improved cap was constructed consisting of a low permeability layer, a drainage layer, a geotextile layer and a vegetative soil layer.
6. A leachate extraction and collection system was constructed.
7. Monitoring indicates that the groundwater plume is dissipating. Therefore the groundwater extraction and treatment was not implemented in accordance with the January 1997 ESD. Now that the cap is in place and leachate collection and treatment is taking place the groundwater will be monitored to verify that the contaminant plume in the shallow aquifer continues to dissipate. The long sampling history indicates stable or decreasing contaminant concentrations. The plume size is also stable or decreasing in size. The goal for the groundwater is to achieve MCL's. Currently the MCL's are exceeded only for arsenic in one well adjacent to the landfill. The MCL is barely exceeded and natural attenuation is expected to allow MCL's to be achieved quite rapidly. There is adequate flow in the aquifer for dispersion/dilution to take place. Based on monitoring data it is expected that groundwater treatment will not be required. At the five year review a final decision will be made regarding the need for groundwater treatment in the shallow aquifer.
8. Extracted leachate is being sent to an off-site treatment facility per the August 1997 ESD.
9. An active gas collection and destruction system had been constructed and is in operation.
10. A discharge to the river is not required per the August 1997 ESD since leachate is being sent off site for treatment.
11. A monitoring system has been constructed according to the RD.

The selected remedy eliminates the principal threat posed by the Site by preventing direct contact with contaminated materials, venting and destroying landfill gases, greatly reducing water flow thru the waste, and extracting and treating leachate from the landfill.

### **III. Demonstrations of Cleanup Activity-Quality Assurance and Quality Control**

Activities at the site were consistent with the ROD, and all work plans are issued to contractors for design and construction of the RA, including a Quality Assurance Project Plan, incorporated all USEPA quality assurance and quality control (QA/QC) procedures and protocol. U.S. EPA analytical results are accurate to the degree needed to assure satisfactory execution of the RA and are consistent with the ROD and the RD plans and specifications.

### **IV. Activities and Schedule for Site Completion**

The following activities will be completed according to the following schedule:

TASK	Estimated Completion	Responsible Organization
Approve RA Report and O&M report	5-30-2000	U.S. EPA
Approve Final Close Out Report	9-30-2030	U.S. EPA
Site Deletion	12-31-2030	U.S. EPA

#### V. Summary of remediation costs

The cost estimate to implement the remedial action described in the ROD was \$3.8 million and the estimate of the O&M costs was \$4.4 million. Cost data from the PRP's is not available.

#### VI. Five-Year Review

Hazardous substances will remain at the site above health-based levels after the completion of the remedial action. Pursuant to CERCLA Section 121 C and as provided in OSWER Directive 9355.7-02, Structure and Components of Five-Year Review Guidance, July 26, 1994, U.S. EPA must conduct a statutory five-year review. A Five-Year Review Report will be initiated prior to July 2003.

  
William E. Munro, Director  
Superfund Division

2/25/00  
Date

**NPL CONSTRUCTION COMPLETION SITE INFORMATION**

EPA ID: OH D 000382663

Site Name: POWELL ROAD LANDFILL

State: OH Region: 5

Congressional District: 03

Construction Completion Date: 2/25/00

RPM ANTHONY RUTTER

Please circle appropriate Document Type Code:

Code	Description
COR	Close Out Report (COR)
DEL	Deletion
ICOR	Interim COR
LAR	Limited Action ROD
NAR	No Action ROD
NOID	Notice Of Intent To Delete
NONE	No document available
<u>PCOR</u>	Preliminary COR

RPM  
Anthony  
Rutter

LTRA<sup>1</sup>: Yes ☒ No

Please circle appropriate Site Lead<sup>2</sup> Code as indicated in CERCLIS:

Code	Description
F	Fund Financed
<u>FE</u>	PRP Response under Fed.
FF	Federal Facility
MR	Mixed Responsible Party
PS	PRP Response under State
RP	Responsible Party
S	State, fund financed
SE	State Enforcement
SN	State, no fund money
SR	State & Responsible Party
TR	Tribal Lead

Please circle appropriate Site Type(s) Code(s) as indicated in CERCLIS:

Code	Description
A	Abandoned
B	Chemical Plant
C	City Contamination
<u>G</u>	Groundwater
H	Housing Area/Farm
<u>I</u>	Industrial Waste
J	Inorganic Waste
<u>L</u>	Landfill
M	Manufacturing Plant
N	Military Related
O	Other
P	Lagoons
R	Radioactive Site
T	Mines/Tailings
V	Waterways/Creeks/Rivers
<u>W</u>	Wells

<sup>1</sup> Long Term Response Actions (LTRA) are undertaken for the purpose of restoring groundwater. These actions may require several years of onsite activity before cleanup levels are achieved.

<sup>2</sup> "Lead" represents the party responsible for final operable unit remedial action activities; if no remedial work was performed, "lead" represents party responsible for other actions.

Please circle appropriate Clean-up Activity/Technology Code:

**On-Site Containment Code/Description**

- BF - Backfilling
- ☒ CP - Surface Capping Only (cement, clay, low permeability cover)
- CS - Surface Capping w/ slurry wall and cover
- CV - Soil cover
- ☒ DG - Excavation and on-site containment
- EN - Encapsulation or overpacking w/ final on-site disposal
- ☒ SD - Surface drainage control- dikes, berms, ditches, diversionary measures
- SL - Solidification/stabilization: vitrification, immobilization, fixation
- ST - Drums, staged only
- SU - Slurry wall

**Off-Site Containment Code/Description**

- DO - Excavation and final removal to off-site landfill
- EC - Encapsulation or overpacking with final off-site disposal
- RE - Removal to off-site locations
- RM - Final removal to off-site landfill

**On-Site Treatment Code/Description**

- AE - Soil aeration technologies
- AI - Air stripping technologies
- BO - Biodegradation and bioremediation treatment
- DC - Dechlorination
- IF - In situ flushing
- IN - Incineration and on-site disposal of residual
- IX - Incineration w/ off-site disposal of residual
- ☒ LC - Leachate treatment
- ☒ LF - Landfill gas extraction system; Venting; Gas Collection
- ☒ NA - Natural attenuation
- NU - pH neutralization, other neutralization methods
- PO - Pump and treat, final on-site discharge or reinjection
- PX - Pump and treat, final off-site discharge or reinjection
- RC - Removal to off-site locations after on-site treatment
- SV - Soil vapor extraction
- SW - Soil washing
- TD - Thermal desorption
- TH - Thermal treatment w/on-site placement of residuals
- TM - Thermal treatment w/off-site placement of residuals

**Off-Site Treatment Codes/Description**

- ID - Incineration and disposal
- RV - Removal for off-site treatment and disposal

**Other Site Treatment Codes/Description**

- ☒ IC - Institutional controls
- IV - Innovative technologies
- NC - No clean-up necessary
- RA - Referred to another authority
- RR - Permanent relocation of residents
- SM - Surface water monitoring
- WA - Permanent water supply provided
- WL - Construction of wells other than monitoring wells
- ☒ WM - Groundwater monitoring

**Comments:**

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Reviewer: KEVIN MOULD

Date: 3/2/00